

wherein

R^1 is a C_{1-10} -alkyl, $(R^3Q)_pR^3$ or C_6-C_{20} -aryl where Q is O or S,

each R^3 is independently C_{1-6} -alkyl, and

p is an integer between 0 and 6,

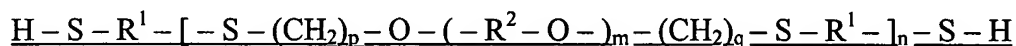
R^2 is C_{1-6} -alkyloxy or C_{5-12} -cycloalkyloxy,

R^4 is H, C_{1-6} -alkyl alcohol and C_{0-6} -alkyl substituted with $[CH_2CH_2(R^2)_m]$ -X, where X

is a halogen,

m is an integer between 1 and 4, and

n is an integer selected to yield a molecular weight for said polythioether of between 1000 and 10,000 Daltons.



wherein

R^1 is selected from the group consisting of C_{2-6} n-alkylene, and a $-[(-CH_2)_p-X]_q-(-CH_2)_r-$ group;

R^2 is selected from the group consisting of C_{2-6} n-alkylene, and C_{6-8} cycloalkylene;

X is selected from the group consisting of O and S;

m is an integer between 0 and 10;

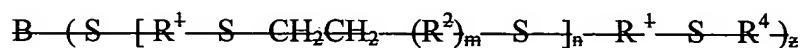
p is an integer between 2 and 6;

q is an integer between 1 and 5;

r is an integer between 2 and 10; and

n is an integer between 1 and 60 selected so that the molecular weight of the polythioether is between 1,000 and 10,000 Daltons.

23. (currently amended) The polythioether of claim 22 wherein R¹ is ~~C₂-C₈~~ C₂-C₆ n-alkylene.
24. (currently amended) The polythioether of claim 22 where R¹ is ~~—[(—CH₂)_p—O—]_q—(—CH₂)_r—~~ where r, p, and q are 2 is ~~—(R³)_p—R³—~~ where R³ in each occurrence is C₁₋₂-alkylene and p being 1 or 2.
25. (currently amended) The polythioether of claim 22 wherein R² is ~~C₁-C₂~~ C₂ alkyleneoxy.
26. (currently amended) The polythioether of claim 22 wherein the molecular weight of said polythioether ranges from about ~~is between~~ 2000 to about ~~and 6000~~ 5000 Daltons.
27. (currently amended) The polythioether of claim 22 ~~wherein R⁴ is hydrogen~~ having an atomic percentage ratio of C:S:O of 35-49 : 20-60 : 0-20.
- 28-30. (canceled)
31. (currently amended) A mixture of polythioether polymers comprising:
a polythioether polymer having the formula



~~where B is a z valent group of a polyfunctionalizing agent, z is an integer from 3 to 6,~~

R^1 is a C_{1-10} alkyl, $(R^3Q)_pR^3$ or C_6-C_{10} aryl where Q is O or S,

each R^3 is independently C_{1-6} alkyl, and

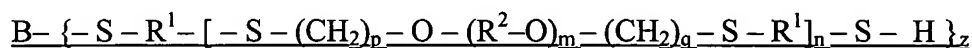
p is an integer between 0 and 6,

R^2 is C_{1-6} alkyloxy or $[[C_{5-12}]]$ cycloalkyloxy,

R^4 is H, C_{1-6} alkyl alcohol and C_{0-6} alkyl substituted with $[CH_2CH_2(R^2)_m]$ X, where X is a halogen,

m is an integer between 1 and 4, and

n is an integer selected to yield a molecular weight for said polythioether of between 1000 and 10,000 Daltons.



wherein

R^1 is selected from the group consisting of C_{2-6} n-alkylene, and a $-[(-CH_2)_p - X]_q - (-CH_2)_r -$ group;

R^2 is selected from the group consisting of C_{2-6} n-alkylene, and C_{6-8} cycloalkylene;

X is selected from the group consisting of O and S;

m is an integer between 1 and 10;

p is an integer between 2 and 6;

q is an integer between 1 and 5;

r is an integer between 2 and 10;

z is an integer from 3 to 6;

B is a z-valent group of a polyfunctionalizing agent; and

n is an integer between 1 and 60 selected so that the molecular weight of the polythioether is between 1,000 and 10,000 Daltons.

32. (previously added) The polythioether mixture of claim 31 wherein z is 3.
33. (currently amended) The polythioether mixture of claim 31 wherein the mixture has an average functionality between ~~2~~ 3 and 4.
34. (previously added) The polythioether mixture of claim 33 wherein the average functionality is between 2.05 and 3.00.
35. (currently amended) A curable composition comprising:
 ~~42 to 80~~ 40 to 80 weight percent of a polythioether polymer according to claim 22,
 ~~0.3 to 15~~ 5 to 60 weight percent of a ~~lightweight~~ filler and ~~0.1 to 20~~ 10 weight percent of a curing agent.
36. (currently amended) The curable composition of claim 35 further comprising one or more additives selected from the group consisting of: pigments, cure accelerators, ~~surfactants~~, adhesion promoters, thixotropic agents and isopropyl alcohol ~~solvents~~.
- 37-40. (canceled).